

Final Exam

Read first

This task sheet contains all information necessary to solve the final assignment. It is meant to be short. You can of course reach out for clarification, but you already know everything there is to know about how to approach this. You have 3 days' time. Use it well and do not underestimate this final. Start immediately. And now show that you mastered 357 and good luck!

Task

Write an mpi – controlled parallel program which calculates the matrix multiplication result of two images and stores this into a result image. You will find three images: f0, f1 and f2. They are quadratic, meaning width equals height. Read image f1 and f2, normalize the colors and make a matrix multiplication, by using their colors as matrix elements. Do this for red, green and blue. Your program should work with 1, 2, 4 and 8 instances. Measure and print the time it takes for the calculation on the screen. Save the result image. Your result image will overflow the byte limitation. I recommend multiplying the result colors with 0.03 before casting it into a byte.

Interpret

Let me know how you interpret the result on Piazza. No points for this, but its essential for image processing. Also, if you want, exchange f2 with f0. This is relevant for AI image recognition. Yes, you already are capable of doing so much!

Submit

Submit your two code files and all images zipped on Canvas with:
NAME_LASTNAME_FINAL.zip